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ABSTRACT OF THE DISCLOSURE

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3 The invention includes, in one embodiment, a system for monitoring a plurality
4 of cell voltages of an electrochemical device for a plurality of cells connected
5 in series, the system including: a plurality of connecting pins for removable
6 connection across the plurality of cells; a plurality of differential amplifiers,
7 each differential amplifier having a plurality of laser wafer trimmed resistors
8 providing matching, so that common mode signals are rejected, while
9 differential input signals are amplified, each differential amplifier having two
10 inputs and one output, where the inputs are each connected to the plurality of
11 connecting pins; a switching network having a plurality of inputs and one
12 output, the inputs of the switching network connected to the outputs of the
13 differential amplifiers; not more than one analog to digital converter per 16
14 cells having an input connected to the output of the switching network and
15 adapted to provide digital values indicative of the voltages measured by the
16 plurality of differential amplifiers; and a power supply to supply regulated
17 power to at least one electrical circuit consisting of the differential amplifiers,
18 switching network, and mixtures thereof, where the power supply derives its
19 power from the plurality of cells.